

Amendments to the Drawings:

The attached sheet of drawings includes changes to Figure 1. This sheet replaces the original sheet containing Figure 1.

Attachment: Replacement Sheet

REMARKS

The Office Action of August 21, 2007 has been reviewed and the comments therein were carefully considered. Claims 1-8 and 10-19 are currently pending. By this amendment claims 1, 6, 10, and 13 have been amended and claim 17 has been cancelled. No new matter has been added to the application.

Drawing Objections

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “a liquid crystal display included on the printing device/barcode label printer,” “a processor located on the printing device/barcode label printer,” and “a keyboard mounted on the printing device/barcode label printer” must be shown or the feature(s) canceled from the claim(s). (emphasis added).

Figure 1 has been amended to overcome the objection stated above. A box labeled “printing device/barcode label printer” has been added to the drawing to demonstrate that the liquid crystal display, processor, and keyboard are “included on”, “located on”, or “mounted on” the printing device/barcode label printer.

Claim Objections

Claim 1 is objected to because of the following informalities: “the process” in lines 8-9 of claim 1 should have been “the keyboard.” Appropriate correction is required.

Claim 1 has been amended to overcome informalities identified by the Office Action by changing “the process” in lines 8-9 of claim 1 to “the keyboard.”

Claim Rejections Under 35 USC §112

Claims 1-8 and 10-19 are rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter which was

not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant respectfully traverses these rejections.

The current Office Action states: “The specification as originally filed has failed to disclose applicant’s newly claimed inventions ‘a processor located on the printing device/barcode label printer.’” (Office Action, pg. 3).

Applicant respectfully submits that “a processor located on the printing device/barcode label printer” is sufficiently described in the specification. The application states,

... the processor may also control various set-up options of the keyboard and display assembly and/or a device, such as a barcode label printer or the like, of which the keyboard and display assembly forms a part. It is noted that where the keyboard and display assembly of the present invention forms a part of a larger device such as a printer, the processor is preferably used to control not only the display but other components of the device as well. (pg. 4, lines 16-23) (emphasis added).

The current Office Action also states: “[c]laim 13 does not have support in the specification for the limitation ‘varying the first contrast setting in a data entry mode to create a second contrast setting for the liquid crystal display based on the resistance of the potentiometer.’” (Office Action, pg. 3).

Applicant respectfully submits that claim 13 and the claimed feature of “varying the first contrast setting in a data entry mode to create a second contrast setting for the liquid crystal display based on the resistance of the potentiometer” is sufficiently supported in the specification. The application states the following:

... the contrast control keys **16** and **18** are actuable by a user at any time, regardless of the mode of the processor **20** to allow a user to adjust the display’s contrast on the fly without entering the set-up mode. ... each of the keys **16** and **18** is connected to a digital potentiometer **24** that couples the contrast keys **16** and **18** to the display for controlling the contrast thereof directly, while bypassing the processor **20**. The digital potentiometer **24** is responsive to the actuation of the contrast key **16** such that the key **16** is pressed or pushed down by increasing the resistance of the potentiometer 24 each time the key 16 is actuated or pressed. Similarly, the digital potentiometer **24** is responsive to the actuation of the contrast key **18** to decrease its resistance each time the contrast key **18** is actuated or pressed. (pg. 4, lines 27-30; pg. 5, lines 1-9) (emphasis added).

The current Office Action also states, “[c]laim 17 does not have support in the specification for the limitation ‘the step of varying the first contrast setting to create a second contrast setting is received during a data entry mode of the barcode label printer.’” (Office Action, pgs. 4-5). Applicant has cancelled claim 17 and has amended claim 13 to include a similar feature.

Applicant respectfully submits that claim 13 and the claimed feature of “the step of varying the first contrast setting in data entry mode . . .” is sufficiently supported in the specification. The application states the following:

A set of keys includes alpha-numeric keys and preferably control keys such as an enter key and one or more cursor keys, etc. The set of keys is coupled to a processor via a PIC micro-controller for data entry and mode selection of the like. (pg. 4, lines 4-8) (emphasis added).

Applicant has demonstrated in each of the above cases, that the claims were sufficiently described in the specification and therefore applicant respectfully requests withdrawal on this ground for rejection under 35 USC §112, first paragraph, of claims 1-8 and 10-19.

Claim Rejections Under 35 USC §103

Claims 1-8 & 10-12 are rejected under 35 USC §103(a) as being unpatentable over Applicant’s admitted prior art (background of the invention) in view of Burnett, U.S. Patent No.4,964,124 (“Burnett”). Applicant respectfully traverses the rejections.

I. Cited References Do Not Disclose, Teach, or Suggest Applicant’s Claimed Features

Independent claims 1, 6, and 10 have been amended to further clarify the invention. In particular, independent claim 1 includes the claimed features of “at least one key for controlling the contrast of the liquid crystal display in a set-up mode, the at least one key operatively coupled to the processor” and “at least one contrast key for controlling the contrast of the liquid crystal display in a data entry mode, the contrast key directly coupled to the liquid crystal display by the potentiometer bypassing the processor.” Independent claims 6 and 10 include similar features. Applicant respectfully submits that the cited references do not disclose, teach, or suggest at least these claimed features.

The Office Action states, “Applicant’s Admitted Prior Art does not teach a keyboard and display assembly of a printing device, a potentiometer or the contrast key being directly coupled to the liquid crystal display by the potentiometer bypassing the processor.” (pg. 4, Office Action). Applicant respectfully agrees with the Office Action.

Applicant’s stated background of the invention with regard to the problems of the prior art states:

The contrast setting of the display in these types of assemblies can be set by a user in a set-up mode using the keyboard to enter a selected contrast setting to the processor. The processor is programmed according to stored software to respond to the user selected contrast setting to provide control signals to the display in order to set the display’s contrast level. Once set, the contrast of the display cannot be reset without the assembly being put back into the set-up mode. (pg. 1, line 28 & pg. 2, lines 1-6).

Applicant’s background of the invention discusses devices which only allow in a set-up mode a setting for contrast and not a device in which contrast setting may be controlled in multiple ways as described in the amended claims.

The Office Action further states, “Burnett teaches the contrast key being directly coupled to the liquid crystal display by a potentiometer bypassing the processor.” (Office Action, pg. 5). Burnett claims the contrast key directly coupled to the liquid crystal display as being the only method to change the contrast. However, as stated above, in stark contrast, the Applicant is disclosing a claimed feature that allows the user to change the contrast in two ways, either through the processor or via the contrast key coupled through the potentiometer directly to the liquid crystal display, and in either the set-up mode or the data entry mode. “In the set-up mode, if desired, the processor can be responsive to user actuation of one or more or the set of keys (14 from Figure 1) to set a default contrast setting for the liquid crystal display. However, the contrast control keys (16 and 18 from Figure 1) are actuable by a user at any time, regardless of the mode of the processor to allow a user to adjust the display’s contrast on the fly without reentering the set-up mode.” (pg. 4, lines 24-30) (Emphasis added).

Because Burnett does not disclose the feature of changing the contrast through two distinct different ways in two distinct different modes of operation (set-up and data entry modes), but rather, merely discloses the changing of the contrast in one way, the Applicant respectfully

submits that the cited references do not disclose the features of independent claims, 1, 6, and 10. Moreover, dependant claims 2-5, 7, 8, 11, and 12 which ultimately depend from one of the dependant claims are allowable for at least the same reason as the independent claim from which they ultimately depend. Therefore, Applicant respectfully requests withdrawal on this ground for rejection of claims 1-8 and 10-12.

Independent claim 13 has been amended and it is respectfully submitted that independent claim 13 is allowable for similar reasons stated above with respect to independent claims 1, 6, and 10. Dependent claims 14-16 and 18-19 which ultimately depend from independent claim 13 are allowable for at least the same reason as independent claim 13.

II. Cited References Do Not Provide Adequate Motivation to Combine

The MPEP states, “[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so.” (§ 2143.01 (I), pg. 2100-127) (emphasis added). The MPEP also cites a Federal Circuit case, *In re Roufett*, 149 F.3d 1350, 1357 (Fed. Cir. 1998), which held, “[t]he combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obvious was held improper.” (MPEP, § 2143.01(I), pg. 2100-127) (emphasis added). The MPEP goes on to state, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” (MPEP, § 2143.01(III), pg. 2100-128) (emphasis added).

The Office Action states various times that the motivation to combine the features of Burnett and Applicant’s Admitted Prior Art would have been obvious “because this enables the user to adjust the contrast without having to exit data entry mode and enter set-up mode.” (Office Action, pgs. 5, 8, 9). Applicant respectfully disagrees and submits that this is the exact reason and main advantage for the Applicant’s invention as stated in the application. The Applicant has overcome the disadvantages of the prior art by providing an invention “so that the user can adjust the display’s contrast on the fly without having to exit a data entry mode and enter a set-up mode.” (pg. 2, lines 26-27). The Applicant respectfully submits that the Office

Action used hindsight in order to provide a suggestion or motivation to combine the cited references.

Furthermore, Applicant respectfully submits that the cited references, Applicant's Admitted Prior Art and Burnett, do not provide any motivation or suggestion to combine these references. Burnett merely references once in the Brief Description of the Preferred Embodiments "[a] potentiometer **64** is connected to the LCD module **62** to adjust the bias on the display for contrast." (column 6, lines 3-5). However, Burnett provides no other information regarding this feature, nor is there any other suggestion or motivation as to how this feature "enables the user to adjust the contrast without having to exit data entry mode and enter set-up mode." Therefore, Burnett provides no suggestion or motivation for a person skilled in the art to combine Burnett with the Applicant's Prior Art. Additionally, the Applicant's Prior Art does not provide any suggestion or motivation which would lead a person skilled in the art to combine with Burnett.

Because neither Burnett nor the Applicant's Prior Art provide any suggestion or motivation to combine these references, the Applicant respectfully submits that the cited references do not disclose the features of independent claims, 1, 6, 10, and 13. Moreover, dependant claims 2-5, 7, 8, 11-12, 14-16, and 18-19 which ultimately depend from one of the independent claims are allowable for at least the same reason as the independent claim from which they ultimately depend. Therefore, Applicant respectfully requests withdrawal on this ground for rejection.

III. Burnett Prior Art is not Analogous Art

The MPEP states, "to rely on a reference under 35 U.S.C. § 103, it must be analogous prior art" (MPEP § 2141.01(a)(I), pg. 2100-119). The MPEP cites a Federal Circuit case to provide a definition of analogous art, "[i]n order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention was concerned." (MPEP § 2141.01(a)(I), pg 2100-119, citing *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992)). In defining "reasonably pertinent", the MPEP cites another case which held, "[a] reference is reasonably pertinent if, even though it may be in a different field from that of

the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." (MPEP § 2141.01(a)(I), pg 2100-119, citing *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). Lastly, citing *State Contracting & Engineering Corp. v. Condotte America, Inc.*, the MPEP states, "where the general scope of a reference is outside the pertinent field of endeavor, the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved." (MPEP § 2141.01(a)(I), pg 2100-119, citing 346 F.3d 1057, 1069 (Fed. Cir. 2003)).

Applicant respectfully submits that the Burnett prior art is not analogous prior art to Applicant's claimed invention. As the MPEP states, to be analogous prior art, the reference must be either 1) in the field of the applicant's endeavor, or 2) reasonably pertinent to the particular problem with which the invention was concerned. Applicant respectfully submits that Burnett meets neither of these requirements and therefore should not be considered analogous prior art and should not be relied on under 35 U.S.C. § 103.

The Patent Classification of Burnett is 714/44 (Error Detection/Correction and Fault Detection/Recovery-Peripheral Device Component Fault), while the Patent Classification of the Applicant's invention is 345/89,168,581,617 (Computer Graphics Processing and Selective Visual Display Systems-Gray Scale Capability-Including Keyboard-Attributes-Contrast). These are obviously two different classifications. However, Class 714 is listed under Section II—References to Other Classes of the Applicant's classification, 345. It is important to note what the MPEP states regarding the classification and references/cross-references: "[w]hile Patent Office classification of references and cross-references in the official search notes of the class definitions are some evidence of 'nonanalogy' or 'analogy' respectively, the court has found 'the similarities and differences in structure and function of the inventions to carry far greater weight.'" (MPEP § 2141.01(a)(II), pg 2100-119, citing *In re Ellis*, 476 F.2d 1370, 1372 (C.C.P.A. 1973). Therefore, it is important to analyze the similarities and differences in structure and function of Burnett vs. the Applicant's invention.

The structure and function of Burnett is a self-contained, portable, hand-held computer peripheral tester used to test the operation of a computer peripheral (Burnett, column 1, lines 65-69 and column 2, lines 1-3), while the structure and function of the Applicant's invention is a

keyboard and display assembly as part of a larger device, such as a printer or bar-code printer, which includes one key of the keyboard that is coupled to the display for contrast control, bypassing the processor to which the other keys of the keyboard are coupled so that the user can adjust the display's contrast on the fly without having to exit a data entry mode and enter a set-up mode. (pg. 2, lines 20-27). These structures and functions are distinctly different. The only significant similarity between these two inventions is the LCD screen, which is used in many electronic inventions. Based on this analysis, the Applicant respectfully submits that Burnett's structure and function are significantly different than the Applicant's invention and therefore Burnett is not in "the field of the applicant's endeavor" and does not meet the first requirement for analogous prior art.

The second requirement for analogous prior art states that Burnett must be reasonably pertinent to the particular problem with which the Applicant's invention was concerned, and Burnett would have logically commended itself to the Applicant's attention in considering the Applicant's problem. The Applicant's invention is designed to overcome the problem of the cumbersome requirement for a user to have to exit the data entry mode and enter the set-up mode to adjust the display's contrast. (pg. 2, lines 14-17). While Burnett has an LCD, it is highly unlikely and not logical, that the Applicant would have given attention to Burnett because Burnett does not attempt to solve the same problem, or even a similar problem. Burnett solves a problem of computer peripherals testers which only offer a go/no go means of testing sub-systems with no indication as to the failing component, which are required to run offline to test the peripherals, and thus waste valuable system time. (Burnett, column 1, lines 38-44). This is distinctly different from the problem solved by the Applicant's invention. Burnett specifically states the solution to their problem with no mention of an LCD screen or contrast setting directly coupled to the LCD screen as being a solution to the problem or desirable features:

What is needed is a computer peripheral tester which may be utilized to test a peripheral and/or its cable when the computer is online and running other programs. It would be desirable to provide a computer peripheral tester which is portable and easily attachable to a computer peripheral. It would also be desirable to provide a computer peripheral tester which can be easily employed to detect malfunctions in a computer peripheral or in the data communication cable attached to the peripheral. It would also be desirable to provide a computer peripheral tester which is versatile in use in that different peripheral characteristics may be software selected to configure the peripheral tester to the

data transmission characteristics of a large number of different types of computer peripherals. Finally, it would be desirable to provide a computer peripheral tester which is programmable for either serial or parallel data communication with a computer peripheral. (Burnett, column 1, lines 45-62).

Therefore, the Applicant respectfully submits that the Burnett reference was not reasonably pertinent to the problem with which the Applicant was concerned because a person having ordinary skill in the art would not reasonably have expected to solve the problem of providing a contrast control while in either set-up mode or data entry mode for an LCD in a keyboard and display assembly by considering a reference dealing with a self-contained, portable, hand-held computer peripheral tester.

Because Burnett is neither 1) in the field of the applicant's endeavor, or 2) reasonably pertinent to the particular problem with which the invention was concerned, the Applicant respectfully submits that Burnett is not analogous prior art, and therefore should not be relied upon as a reference under 35 U.S.C. § 103. Therefore, Applicant respectfully requests withdrawal on this ground for rejection.

IV. Conclusion

Applicant, for the above stated reasons, therefore respectfully requests reconsideration of the pending claims and a finding of their allowability based on 35 U.S.C. § 103. Please feel free to contact the undersigned should any questions arise with respect to this case that may be addressed by telephone.

Respectfully submitted,

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